

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A membrane producible by shaping a polymer blend ~~or a block copolymer comprising blocks of monomer units~~, loading the polymer blend ~~or block copolymer~~ with a blowing gas concentration within the polymer blend ~~or block copolymer~~ above a critical concentration at a temperature below a critical temperature, but above the glass transition temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~ and finally stabilizing into a foam structure, said polymer blend being a homogeneous polymer blend comprising components including, at least one hydrophilic polymer and at least one hydrophobic polymer ~~and/or a block copolymer of alternating blocks of hydrophilic and hydrophobic monomer units~~, both wherein the polymer blend and the block copolymer ~~having~~ has a solubility relating to the used blowing gas above the critical concentration.

2. (Previously Presented) A membrane according to claim 1, wherein said membrane is foamed at a temperature at least 10°C below the critical temperature.

3. (Currently Amended) A membrane according to claim 1 or 2, wherein said membrane is foamed above a critical concentration, said critical concentration being at least 40cm³ (STP)/cm³ of the polymer blend ~~or block copolymer~~.

4. (Previously Presented) A membrane according to claim 1, wherein the polymer blend comprises an amorphous or semi-crystalline component.

5. (Currently Amended) A membrane according to claim 1, wherein the polymer blend ~~or block copolymer~~ after shaping is charged with the blowing gas at a

temperature below the glass transition temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~ and is then foamed by increasing the temperature to above the glass transition temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~, but below the critical temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~.

6. (Currently Amended) A membrane according to claim 1, wherein after shaping at a temperature above the glass transition temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~ but below the critical temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~, the mixture is charged with the blowing gas and foamed by a pressure decrease.

7. (Currently Amended) A membrane according to claim 1, wherein before shaping the polymer blend/gas mixture ~~or block copolymer/gas mixture~~, said membrane is fed with the blowing gas into an extrusion tool by a pressure decrease, and is foamed within said extrusion tool or before exiting from said extrusion tool at a temperature above the glass transition temperature of the polymer blend/gas mixture ~~or block copolymer/gas mixture~~ but below the critical temperature.

8. (Previously Presented) A membrane according to claim 1, wherein said blowing gas is carbon dioxide.

9. (Previously Presented) A membrane according to claim 1, wherein the foam structure after foaming is stabilized by chilling.

10. (Previously Presented) A membrane according to claim 1, wherein said hydrophobic polymer is one of polysulfone, polyethersulfone, polyetherimide, polycarbonate, or any mixture thereof.

11. (Previously Presented) A membrane according to claim 1, wherein said hydrophilic polymer is one of polyvinylpyrrolidone, sulfonated polyethersulfone, and polyethyloxazoline, or at least one functionalized polysulfone, polyethersulfone, polyetherimide, or polycarbonate, or any mixtures thereof.

12. (Previously Presented) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being similar.

13. (Currently Amended) A membrane according to claim 1, wherein the polymer blend ~~or block copolymer~~ has a hydrophilicity, such that a surface of the membrane is ~~wet~~ wettable with an aqueous solution.

14. (Previously Presented) A membrane according to claim 1, wherein said membrane is a flat membrane, a hollow fibre membrane, or a monofilament membrane.

15. (Canceled)

16. (Currently Amended) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least $43 \text{ cm}^3 \text{ (STP)/cm}^3$ of the polymer blend ~~or block copolymer~~.

17. (Currently Amended) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least $45 \text{ cm}^3 \text{ (STP)/cm}^3$ of the polymer blend ~~or block copolymer~~.

18. (Currently Amended) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least $47 \text{ cm}^3 \text{ (STP)/cm}^3$ of the polymer blend ~~or block copolymer~~.

19. (Previously Presented) A membrane according to claim 9, wherein said foam structure is chilled in an ethanol/water mixture.

20. (Previously Presented) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 200°C of one another.

21. (Previously Presented) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 150°C of one another.

22. (Previously Presented) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 100°C of one another.

23. (Previously Presented) A membrane according to claim 13, wherein said aqueous solution is blood or plasma.